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[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Parts 429 and 430

[Docket No. EERE-2008-BT-TP-0011]

RIN: 1904-AB78

Energy Conservation Program: Test Procedures for Microwave Ovens

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Supplemental notice of proposed rulemaking.

SUMMARY: On November 23, 2011, the U.S. Department of Energy (DOE) issued a supplemental notice of proposed rulemaking (SNOPR) to amend the test procedures for microwave ovens. That SNOPR proposed amendments to the DOE test procedure to incorporate provisions from the International Electrotechnical Commission (IEC) Standard 62301, “Household electrical appliances—Measurement of standby power,” Edition 2.0 2011-01 (IEC Standard 62301 (Second Edition)). Today’s SNOPR proposes additional provisions for measuring the standby mode and off mode energy use of products that combine a microwave oven with other appliance functionality, as well as minor technical clarifications.

DATES: DOE will accept comments, data, and information regarding this SNOPR submitted no later than **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. See section V, “Public Participation,” for details.

ADDRESSES: Any comments submitted must identify the SNOPR on Test Procedures for Microwave Ovens, and provide docket number EERE-2008-BT-TP-0011 and/or regulatory information number (RIN) 1904-AB78. Comments may be submitted using any of the following methods:

1. Federal eRulemaking Portal: www.regulations.gov. Follow the instructions for submitting comments.
2. E-mail: MicroOven-2008-TP-0011@ee.doe.gov. Include docket number EERE-2008-BT-TP-0011 and/or RIN 1904–AB78 in the subject line of the message.
3. Mail: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121. If possible, please submit all items on a compact disc (CD), in which case it is not necessary to include printed copies.
4. Hand Delivery/Courier: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 6th Floor, 950 L’Enfant Plaza SW., Washington, DC 20024. Telephone: (202) 586-2945. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

For detailed instructions on submitting comments and additional information on the rulemaking process, see section V of this document (Public Participation).

Docket: The docket is available for review at www.regulations.gov , including Federal Register notices, framework documents, public meeting attendee lists and transcripts, comments, and other supporting documents/materials. All documents in the docket are listed in the www.regulations.gov index. However, not all documents listed in the index may be publicly available, such as information that is exempt from public disclosure.

A link to the docket web page can be found at:
<http://www.regulations.gov/#!docketDetail;rpp=10;po=0;D=EERE-2008-BT-TP-0011>. This web page contains a link to the docket for this notice on the www.regulations.gov site. The www.regulations.gov web page contains simple instructions on how to access all documents, including public comments, in the docket. See section V for information on how to submit comments through www.regulations.gov.

For further information on how to submit a comment or review other public comments and the docket, contact Ms. Brenda Edwards at (202) 586-2945 or email:
Brenda.Edwards@ee.doe.gov.

FOR FURTHER INFORMATION CONTACT:

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I. Authority and Background

Title III of the Energy Policy and Conservation Act (42 U.S.C. 6291, et seq.; “EPCA” or, “the Act”) sets forth a variety of provisions designed to improve energy efficiency. (All

references to EPCA refer to the statute as amended through the Energy Independence and Security Act of 2007 (EISA 2007), Pub. L. 110-140 (Dec. 19, 2007)). Part B of title III, which for editorial reasons was redesignated as Part A upon incorporation into the U.S. Code (42 U.S.C. 6291–6309), establishes the “Energy Conservation Program for Consumer Products Other Than Automobiles.” These include microwave ovens, the subject of today’s notice. (42 U.S.C. 6291(1)–(2) and 6292(a)(10))

Under EPCA, this program consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. The testing requirements consist of test procedures that manufacturers of covered products must use (1) as the basis for certifying to DOE that their products comply with the applicable energy conservation standards adopted under EPCA, and (2) for making representations about the efficiency of those products. Similarly, DOE must use these test requirements to determine whether the products comply with any relevant standards promulgated under EPCA.

General Test Procedure Rulemaking Process

Under 42 U.S.C. 6293, EPCA sets forth the criteria and procedures DOE must follow when prescribing or amending test procedures for covered products. EPCA provides in relevant part that any test procedures prescribed or amended under this section shall be reasonably designed to produce test results that measure energy efficiency, energy use or estimated annual operating cost of a covered product during a representative average use cycle or period of use and shall not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3))

In addition, if DOE determines that a test procedure amendment is warranted, it must publish proposed test procedures and offer the public an opportunity to present oral and written comments on them. (42 U.S.C. 6293(b)(2)) Finally, in any rulemaking to amend a test procedure, DOE must determine to what extent, if any, the proposed test procedure would alter the measured energy efficiency of any covered product as determined under the existing test procedure. (42 U.S.C. 6293(e)(1)) If DOE determines that the amended test procedure would alter the measured efficiency of a covered product, DOE must amend the applicable energy conservation standard accordingly. (42 U.S.C. 6293(e)(2))

The EISA 2007 amendments to EPCA, in relevant part, require DOE to amend the test procedures for all residential covered products to include measures of standby mode and off mode energy consumption. Specifically, section 310 of EISA 2007 provides definitions of “standby mode” and “off mode” (42 U.S.C. 6295(gg)(1)(A)) and permits DOE to amend these definitions in the context of a given product (42 U.S.C. 6295(gg)(1)(B)). The statute requires integration of such energy consumption “into the overall energy efficiency, energy consumption, or other energy descriptor for each covered product, unless the Secretary determines that—

- (i) the current test procedures for a covered product already fully account for and incorporate the standby mode and off mode energy consumption of the covered product; or
- (ii) such an integrated test procedure is technically infeasible for a particular covered product, in which case the Secretary shall prescribe a separate standby mode and off mode energy use test procedure for the covered product, if technically feasible.” (42 U.S.C. 6295(gg)(2)(A))

Under the statutory provisions adopted by EISA 2007, any such amendment must consider the most current versions of IEC Standard 62301, “Household electrical appliances – Measurement of standby power,” and IEC Standard 62087, “Methods of measurement for the power consumption of audio, video, and related equipment.”¹ *Id.* At the time of the enactment of EISA 2007, the most current versions of these standards were IEC Standard 62301 (First Edition 2005-06) (IEC Standard 62301 (First Edition)) and IEC Standard 62087 (Second Edition 2008-09).

DOE Microwave Oven Test Procedure

DOE’s test procedure for microwave ovens is codified at appendix I to subpart B of Title 10 of the Code of Federal Regulations (CFR). The test procedure was established in an October 3, 1997 final rule that addressed active mode energy use only. 62 FR 51976.

To address standby mode and off mode energy use, DOE published a notice of proposed rulemaking (NPR) on October 17, 2008 (hereafter referred to as the October 2008 TP NPR), in which it proposed incorporating provisions from IEC Standard 62301 (First Edition) into the DOE active mode test procedure, as well as language to clarify application of these provisions for measuring standby mode and off mode power in microwave ovens. 73 FR 62134. DOE held a public meeting on November 14, 2008 (hereafter referred to as the November 2008 public meeting) to hear oral comments on and solicit information relevant to the October 2008 TP NPR. Interested parties remarked upon, among other things, harmonization of standards and

¹ EISA 2007 directs DOE to also consider IEC Standard 62087 when amending its test procedures to include standby mode and off mode energy consumption. *See* 42 U.S.C. 6295(gg)(2)(A). However, IEC Standard 62087 addresses the methods of measuring the power consumption of audio, video, and related equipment. Accordingly, the narrow scope of this particular IEC standard reduces its relevance to today’s proposal.

test procedures with those of other countries and international agencies. In particular commenters urged DOE to consider IEC Standard 62301 (Second Edition) (or “Second Edition”), which was in the process of being drafted.

EPCA requires DOE to consider the most recent version of IEC Standard 62301. (42 U.S.C. 6295(gg)(2)(A)) After the October 2008 TP NOPR was published, DOE determined that it would consider the revised version of IEC Standard 62301, (i.e., IEC Standard 62301 (Second Edition)), in the microwave oven test procedure rulemaking. DOE anticipated, based on review of drafts of the updated IEC Standard 62301, that the revisions could include different mode definitions. The revised version was expected in July 2009. IEC Standard 62301 (Second Edition) was not published, however, until January 27, 2011.

In order to ensure that DOE could establish test procedures for standby mode and off mode by March 31, 2011, as required by the EISA 2007 amendments to EPCA, DOE published an SNOPR on July 22, 2010 (hereafter referred to as the July 2010 TP SNOPR) proposing mode definitions based on those in the then current draft version of IEC Standard 62301 (Second Edition), designated as IEC Standard 62301 Second Edition, Committee Draft for Vote (IEC Standard 62301 (CDV)). 75 FR 42612, 42620–23 (July 22, 2010). DOE noted in the July 2010 TP SNOPR that IEC Standard 62301 (CDV) contained proposed amendments to IEC Standard 62301 (First Edition), including new mode definitions based on those proposed in IEC Standard 62301 (Second Edition), Committee Draft 2 (IEC Standard 62301 (CD2))² and which addressed comments received by interested parties in response to IEC Standard 62301 (CD2). As a result of this continued refinement on the basis of public comment to IEC during its test standards

² IEC Standard 62301 (CD2) was the draft version immediately preceding IEC Standard 62301 (CDV).

development process, DOE stated that it believed that those most recent mode definitions represented the best definitions available for the analysis in support of this rulemaking. 75 FR 42612, 42621.

DOE held a public meeting on September 16, 2010 (hereafter referred to as the September 2010 public meeting), to hear oral comments on and solicit information relevant to the July 2010 TP SNOPR. Interested parties remarked upon, among other things, covered products, incorporation of IEC Standard 62301 (First Edition), mode definitions, and testing procedures. On October 29, 2010, the IEC released a finalized draft version of IEC Standard 62301 (Second Edition), IEC Standard 62301 (FDIS).

On March 9, 2011, DOE published an interim final rule (hereafter referred to as the March 2011 Interim Final Rule) amending the test procedures for microwave ovens. 76 FR 12825. The March 2011 Interim Final Rule incorporated by reference specific clauses from IEC Standard 62301 (First Edition) regarding test conditions and testing procedures for measuring the average standby mode and average off mode power consumption into the microwave oven test procedure. DOE also incorporated into the microwave oven test procedure definitions of “active mode,” “standby mode,” and “off mode” based on the definitions provided in IEC Standard 62301 (FDIS). DOE further adopted language to clarify the application of clauses from IEC Standard 62301 (First Edition) for measuring standby mode and off mode power in the March 2011 Interim Final rule. Specifically, DOE defined the test duration for cases in which the measured power is not stable (i.e., varies over a cycle), recognizing that the power consumption of microwave oven displays can vary based on the displayed clock time. 76 FR 12825, 12828.

The amendments adopted in the March 2011 Interim Final Rule became effective on April 8, 2011. However, DOE noted that in order to ensure that the amended test procedure adequately addresses the EISA 2007 requirement to consider the most recent version of IEC Standard 62301, and recognizing that the IEC issued IEC Standard 62301 (Second Edition) in January of 2011, DOE issued the microwave oven test procedure as an interim final rule and offered an additional 180-day comment period to consider whether any changes should be made to the interim final rule in light of publication of IEC Standard 62301 (Second Edition). DOE stated that it would consider these comments and, to the extent necessary, publish a final rulemaking incorporating any changes. 76 FR 12825, 12830–31. In response to the March 2011 Interim Final Rule, interested parties commented that, among other things, DOE should incorporate by reference IEC Standard 62301 (Second Edition) for optimal international harmonization, to give clarity and consistency to the regulated community and to decrease the testing burden.

Based upon the public comment, DOE decided to further analyze IEC Standard 62301 (Second Edition). DOE reviewed this latest version of the IEC standard and believes that it improves some measurements of standby mode and off mode energy use. Accordingly, DOE published a second SNOPR on November 23, 2011 (hereafter referred to as the November 2011 TP SNOPR), proposing to incorporate certain provisions of IEC Standard 62301 (Second Edition), along with clarifying language, into the DOE test procedures for microwave ovens adopted in the March 2011 Interim Final Rule. In addition, DOE proposed in the November 2011 TP SNOPR to make minor editorial changes in 10 CFR part 430, subpart B, appendix I, section

2.2.1.1 to aid the reader by presenting the electrical supply voltages consistently for microwave ovens and conventional cooking products, and also in section 1.12 to clarify the alternative use of metric units for various measurements and calculations in the conventional cooking products test procedure. 76 FR 72331 (Nov. 23, 2011).

II. Summary of the Supplemental Notice of Proposed Rulemaking

In the course of reviewing comments on the November 2011 TP SNOPR, DOE determined that an additional SNOPR would be necessary before moving to a final rule. As discussed in section I, DOE published the March 2011 Interim Final Rule to provide an opportunity for it to fully consider whether any changes should be made in light of publication of IEC Standard 62301 (Second Edition). Based upon the public comment received on the March 2011 Interim Final Rule, DOE analyzed IEC Standard 62301 (Second Edition) for the November 2011 TP SNOPR. Today's SNOPR addresses comments received on the November 2011 TP SNOPR regarding coverage of additional microwave oven product types in the DOE test procedure. Comments on other topics received in response to the November 2011 TP SNOPR will be addressed in the subsequent final rule.

In today's SNOPR, DOE proposes that for products combining a microwave oven with other appliance functionality (i.e., a product with a compartment incorporating microwave capability and one or more other components or appliance features that provide different functionality), the compartment incorporating microwave cooking would be considered a covered product under the definition of a microwave oven at 10 CFR 430.2. DOE is therefore proposing in today's SNOPR provisions that would apportion the overall standby mode and off

mode power in such “combined products” among the microwave oven component and other components, and thus would determine the portion of the standby mode and off mode power associated specifically with the microwave oven component. For certain combined products that contain a microwave oven as one of its functional components, DOE is proposing specific values by which to apportion the standby mode and off mode power. However, the proposed amendments would allow a manufacturer, upon submission of suitable supporting information to DOE, to use alternate apportionment values for such combined products. Manufacturers of combined products for which specific apportionment values are not provided in the test procedure would also be required to submit information as to the appropriate values for their products.

In addition, the proposed amendments in today’s SNOPR would make minor editorial changes in 10 CFR part 430, subpart B, appendix I, section 2.2.1.1 to aid the reader by presenting the electrical supply voltages consistently for microwave ovens and conventional cooking products, and also in newly designated section 1.12 to clarify the alternative use of metric units for various measurements and calculations in the definition of a standard cubic foot of gas for the conventional cooking products test procedure.

For the reader’s convenience, DOE has reproduced in this SNOPR the amendments proposed in the November 2011 TP SNOPR, further amended as appropriate according to today’s proposal.

As noted above, EPCA requires that DOE determine whether a proposed test procedure amendment would alter the measured efficiency of a product, thereby requiring adjustment of existing standards. (42 U.S.C. 6293(e)) Because there are currently no Federal energy conservation standards for microwave ovens (including standards for energy use in the standby and off modes), such requirement does not apply to this rulemaking. DOE is conducting a concurrent rulemaking process to consider standby and off mode energy conservation standards and will consider whether this test procedure alters the measured efficiency as any standards are developed.

III. Discussion

A. Products Covered by this Test Procedure Rulemaking

DOE defines “microwave oven” as a class of kitchen ranges and ovens which is a household cooking appliance consisting of a compartment designed to cook or heat food by means of microwave energy. 10 CFR 430.2 In the March 2011 Interim Final Rule, DOE determined that this regulatory definition includes all ovens equipped with microwave capability, including convection microwave ovens (i.e., microwave ovens that incorporate convection features and possibly other means of cooking) because they are capable of cooking or heating food by means of microwave energy. 76 FR 12825, 12828–30 (March 9, 2011). Note that in the March 2011 Interim Final Rule, DOE referred to such a product as a “combination oven”. There is some confusion, however, among interested parties as to whether the convection features are required to be incorporated in the same cavity as the microwave capability. Further, in today’s SNOPR, DOE proposes that the regulatory definition of microwave oven also includes all products that combine a microwave oven with other appliance functionality. To aid in

distinguishing such other “combined products” from the type of microwave oven that incorporates convection features and any other means of cooking, DOE proposes in today’s SNOPR to use the term “convection microwave oven” to more accurately describe the latter, and to provide a definition of convection microwave oven in 10 CFR 430.2. In this definition, DOE would clarify that the microwave capability, convection features, and any other cooking means are incorporated in a single cavity.

As established in the March 2011 Interim Final Rule, the test procedure does not currently apply to the type of cooking appliance classified by DOE regulations as a microwave/conventional range, which has separate compartments or components consisting of a microwave oven, a conventional oven, and a conventional cooking top. 76 FR 12825, 12830 (March 9, 2011). However, in the March 2011 Interim Final Rule, DOE’s determination of products covered under this test procedure rulemaking did not specifically consider other combined products that could contain a microwave oven as one of its functional components.

In response to the March 2011 Interim Final Rule, interested parties commented that the determination of covered products in the March 2011 Interim Final Rule is overly broad and unclear as to whether ranges with microwave capability would be included as covered products. Comments from interested parties further urged DOE to exclude a combined product consisting of a microwave oven, refrigerator/freezer, and two charging stations as a covered product for the DOE microwave oven test procedure. 76 FR 72332, 72336 (Nov. 23, 2011).

DOE determined that it would consider further the comments regarding combined

products in today's SNOPR. The following sections present DOE's initial proposals from the November 2011 TP SNOPR, discussion of comments from interested parties, and DOE's updated proposal for each category of product that combines a microwave oven with other appliance functionality.

1. Microwave/Conventional Ranges

In the November 2011 TP SNOPR, DOE noted that 10 CFR 430.2 additionally defines a microwave/conventional range as a class of kitchen ranges and ovens (distinct from a microwave oven) which is a household cooking appliance consisting of a microwave oven, a conventional oven, and conventional cooking top. Because DOE asserted in the March 2011 Interim Final Rule that the test procedure applies only to microwave ovens and not to microwave/conventional ranges, DOE reiterated in the November 2011 TP SNOPR the determination it made in the March 2011 Interim Final Rule that a free-standing range with microwave capability in one compartment and a conventional oven in a separate compartment would not be a covered product under this rulemaking. Additionally, DOE proposed in the November 2011 TP SNOPR that a range incorporating a single compartment with microwave capability and other cooking or heating means, along with a conventional cooking top, would not be considered a covered product because the cooking top portion would exclude the range from the relevant portion of the definition of "microwave oven" (e.g., a compartment designed to cook or heat food by means of microwave energy.) 76 FR 72332, 72336 (Nov. 23, 2011).

In response to the November 2011 TP SNOPR, Whirlpool Corporation (Whirlpool) commented that it agreed that microwave/conventional ranges should not be considered covered

products, but that this exclusion should not be limited to free-standing ranges. Whirlpool stated that other installation configurations, such as built-in products, should also be considered covered products. (Whirlpool, No. 33 at p. 1)³

In considering Whirlpool’s comment, DOE believes that the definition of “microwave/conventional range” hinges on the appliance functionality provided by each of the components (i.e., microwave cooking, cooking in a conventional oven, and cooking on a conventional cooking top), rather than the installation configuration. Thus, DOE clarifies that an appliance need not be free-standing to be covered as a microwave/conventional range.

DOE also notes that the definition of “microwave oven” includes a compartment that may heat food by means of electric resistance heating as well as by microwave energy, thereby providing the cooking function of a conventional oven. As a result, DOE believes that products covered under this rulemaking should include products that consist of a microwave oven, conventional oven, and conventional cooking top, as well as those products that consist only of a microwave oven and a conventional cooking top. DOE, therefore, proposes in today’s SNOPR to add a definition of “microwave/conventional cooking top” in 10 CFR 430.2 to state that it is a class of kitchen ranges and ovens that is a household cooking appliance consisting of a microwave oven and a conventional cooking top. DOE also proposes to clarify in the definition of microwave/conventional range that the microwave oven and conventional oven are incorporated as separate compartments.

³ A notation in the form “Whirlpool, No. 33 at p. 1” identifies a written comment: (1) made by Whirlpool Corporation; (2) recorded in document number 33 that is filed in the docket of the microwave oven test procedure rulemaking (Docket No. EERE–2008–BT–TP–0011) and available for review at www.regulations.gov; and (3) which appears on page 1 of document number 33.

Because a microwave/conventional range or microwave/conventional cooking top contains a microwave oven as one of its functional components, DOE now proposes that the microwave oven component of these products would meet the statutory requirements as a covered product for the purposes of measuring standby mode and off mode energy use under EPCA. (42 U.S.C. 6295(gg)(2)(B)(vi)) DOE acknowledges that it had proposed in the November 2011 TP SNOPR that a microwave/conventional range should be excluded as a covered product on the basis of a regulatory definition separate from that of a microwave oven, but has reconsidered that position because it does not believe that the presence of additional appliance functionality would eliminate the statutory requirement to evaluate standby mode and off mode energy use in the microwave oven component.

2. Microwave/Conventional Ovens

The regulatory definition of “conventional oven” is “a class of kitchen ranges and ovens which is a household cooking appliance consisting of one or more compartments intended for the cooking or heating of food by means of either a gas flame or electric resistance heating. It does not include portable or countertop ovens which use electric resistance heating for the cooking or heating of food and are designed for an electrical supply of approximately 120 volts.” 10 CFR 430.2 Because this definition does not provide for the option of cooking or heating food by means of microwave energy, DOE concluded in the November 2011 TP SNOPR that a product comprising a single compartment that uses both radiant heat and microwave energy for cooking would be covered only under the definition of “microwave oven,” which includes convection

microwave ovens⁴ (including those with radiant heating elements) regardless of which is considered the primary cooking mode, and would not be covered as a conventional cooking product. 76 FR 72332, 72336 (Nov. 23, 2011).

In the November 2011 TP SNOPR, DOE acknowledged that the definition of “microwave oven” considers only a single compartment, while the definition of “conventional oven” allows for the possibility of one or more compartments. DOE believes that, for products that consist of multiple oven compartments but no integral cooking top portion, the compartment(s) that provide for cooking by means of microwave energy and any other cooking or heating means would be classified as microwave ovens, while the compartment(s) that cook or heat food by means of a gas flame or electric resistance heating without the use of microwave energy would be classified as conventional ovens. *Id.* at 72336–37.

DOE did not provide specific methodology for such a “microwave/conventional oven” in the November 2011 TP SNOPR, but noted that its regulations contain certain provisions allowing a manufacturer to seek a waiver from the test procedure requirements for covered consumer products if at least one of the following conditions is met: (1) the petitioner’s basic model contains one or more design characteristics that prevent testing according to the prescribed test procedure, or (2) the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. 10 CFR 430.27(a)(1).

⁴ In previous stages of this rulemaking, DOE referred to microwave ovens which incorporate convection features and any other means of cooking as a combination microwave oven. As discussed earlier in the section, DOE is now referring to such products as convection microwave ovens, and is using this terminology in today’s SNOPR for clarity.

In response to the November 2011 TP SNOPR, Whirlpool stated that a cooking product with two separate compartments, one of which has microwave capability and the other which is a conventional oven, but with a single control panel, should be classified as either a microwave oven or a conventional oven. In Whirlpool's opinion, such a product should not be classified as a microwave oven because proprietary market research that it submitted to DOE demonstrates that the product is primarily used for conventional cooking. According to Whirlpool, the data show that the annual microwave oven energy use is 10 percent of the annual energy used by the conventional oven. Therefore, Whirlpool commented that the primary use under which the product should be tested is as a conventional oven. Whirlpool further commented that products with two compartments that can operate independently should have each compartment considered separately, which each compartment classified by its cooking energy source. (Whirlpool, No. 33 at p. 1)

As discussed above, DOE reiterates its determination from the November 2011 TP SNOPR that the compartment(s) of a microwave/conventional oven that provide for cooking by means of microwave energy and any other cooking or heating means would be classified as microwave ovens, while the compartment(s) that cook or heat food by means of a gas flame or electric resistance heating without the use of microwave energy would be classified as conventional ovens. In considering this issue further, DOE believes that a cooking product with two separate compartments, one of which has microwave capability and the other which is a conventional oven, should be considered a covered product in this rulemaking, and for clarity and consistency with the existing regulatory definition of microwave/conventional range,

proposes to add a definition in 10 CFR 430.2 of a “microwave/conventional oven” as a class of kitchen ranges and ovens which is a household cooking appliance consisting of a microwave oven and a conventional oven in separate compartments. DOE does not agree with Whirlpool’s comment that microwave/conventional ovens with a single control panel should be classified as a conventional oven. DOE believes that for both microwave/conventional ovens with a single control panel and those with functional components that can operate independently, the microwave oven component would be considered a covered product under this rulemaking. As discussed in section III.C, DOE is proposing specific values by which to apportion the standby mode and off mode power for these combined products, regardless of whether such products use a single control panel or can be operated independently.

For the same reasons as discussed above for microwave/conventional ranges and microwave/conventional cooking tops, DOE believes that the microwave oven component of a microwave/conventional oven would meet the statutory requirements as a covered product for the purposes of measuring standby mode and off mode energy use under EPCA. (42 U.S.C. 6295(gg)(2)(B)(vi)) DOE tentatively concludes that the test procedure should only measure the standby mode and off mode energy use associated with the microwave oven portion of combined products, and for that reason the proposed amendments do not require any determination as to which appliance function of a combined product with a microwave oven component represents the primary usage of the product.

3. Other Combined Products

Consistent with its determination for microwave/conventional ranges, microwave

conventional cooking tops, and microwave/conventional ovens, DOE further proposes that for all other products combining a microwave oven with other components providing appliance functionality, such as a microwave/refrigerator-freezer/charging station, the portion of the combined product which meets the definition of a microwave oven or convection microwave oven under 10 CFR 430.2 would be a covered product under the microwave oven test procedure.

The methodology by which DOE proposes to measure the standby mode and off mode energy use of all combined products is discussed in section III.C of today's SNOPR.

B. Effective Date for the Test Procedure and Date on which Use of the Test Procedure will be Required

The effective date of the standby and off mode test procedures for microwave ovens would be 30 days after the date of publication of the final rule. DOE's amended test procedure regulations codified in the CFR would clarify, though, that the procedures and calculations adopted in the final rule need not be performed to determine compliance with energy conservation standards until compliance with any final rule establishing amended energy conservation standards for microwave ovens in standby mode and off mode is required.

However, as of 180 days after publication of the final rule, any representations as to the standby mode and off mode energy consumption of the products that are the subject of this rulemaking will need to be based upon results generated under the applicable provisions of this test procedure. (42 U.S.C. 6293(c)(2))

C. Specifications for the Test Methods and Measurements for Combined Products

As discussed above in section III.A, DOE has determined that for products combining a microwave oven with other appliance functionality, the compartment incorporating microwave cooking capability would be considered to meet the definition of a microwave oven at 10 CFR 430.2. As a result, DOE is proposing in today's SNOPR testing procedures specifically for such combined products. In particular, DOE proposes that the standby mode and off mode power for combined products be measured according to the same methodology proposed in the November 2011 TP SNOPR for microwave ovens; i.e., according to the provisions incorporated from IEC Standard 62301 (Second Edition), except in the case in which standby mode power consumption varies as a function of displayed time. In that case, the standby mode power would be measured for the entire product according to the method outlined in the November 2011 TP SNOPR. To determine the standby mode and off mode power associated with the microwave oven portion only, apportionment factors representing the fractional contribution of the microwave oven portion to the total standby mode and off mode power consumption would be multiplied by the overall standby mode and off mode power measurements.

DOE further proposes specific standby mode apportionment factors for products that incorporate microwave ovens and conventional cooking products, based on the following testing and analysis. DOE measured the standby power of a representative sample of four conventional electric cooking tops, nine conventional built-in electric ovens, three conventional built-in gas ovens, eight over-the-range microwave-only ovens, and ten over-the-range convection microwave ovens, using today's proposed methodology. DOE selected over-the-range units as most representative of microwave ovens that would be incorporated in combined products. For each product type, DOE determined the average standby power, which includes the power

consumption of the display as well as other components. DOE then determined the average standby power associated with the display only, using teardowns and component testing of a subsample of five of the convection microwave ovens. DOE believes that the complexity of the convection microwave oven displays would more closely approximate the displays of microwave/conventional ranges, microwave/conventional ovens, and other combined products than microwave-only units due to the multiple cooking modes of convection microwave units. The subsample included both vacuum fluorescent displays (VFDs) and touchscreen liquid crystal displays (LCDs), and the standby power associated with the displays were observed to range from 0.75 to 1.96 watts (W), with an average of 1.41 W, as shown in Table 1.

Table 1: Average Display Standby Power for Built-in and Over-the-Range Convection Microwave Ovens

Configuration	Display Type	Display Standby Power (W)
Over-the-Range	LCD with Touch	1.88
Over-the-Range	LCD with Touch	1.96
Over-the-Range	VFD	0.75
Over-the-Range	VFD	1.38
Over-the-Range	VFD	1.10
Average		1.41

For the full sample of conventional ovens and microwave ovens, the average display standby power was subtracted from the average total standby power to obtain the standby power associated with components other than the display that would be attributed to the functionality of that particular product. No displays were incorporated in the cooking tops tested, and thus no display standby power was subtracted from the average for those products. Table 2 summarizes the average overall standby power measured for each product type, and, for conventional ovens and microwave ovens, the portion of that average that corresponds to components other than the display.

Table 2: Average Standby Power for Conventional Cooking Top, Conventional Ovens, and Microwave Ovens With and Without a Display

Conventional Cooking Top		Conventional Oven		Microwave Oven	
Test Unit	Standby Power (W)	Test Unit	Standby Power (W)	Test Unit	Standby Power (W)
Unit 1	2.99	Unit 1	1.28	Unit 1	4.19
Unit 2	0.60	Unit 2	7.84	Unit 2	4.37
Unit 3	2.36	Unit 3	1.35	Unit 3	4.50
Unit 4	1.53	Unit 4	1.47	Unit 4	4.59
		Unit 5	1.14	Unit 5	4.14
		Unit 6	1.28	Unit 6	6.65
		Unit 7	3.27	Unit 7	3.37
		Unit 8	3.37	Unit 8	1.77
		Unit 9	10.66	Unit 9	3.67
		Unit 10	2.04	Unit 10	3.78
		Unit 11	8.20	Unit 11	4.45
		Unit 12	3.73	Unit 12	3.15
				Unit 13	0.89
				Unit 14	5.14
				Unit 15	4.13
				Unit 16	3.40
				Unit 17	4.48
				Unit 18	2.84
Average	1.87	Average	3.80	Average	3.86
<u>Average Without Display</u>	1.87	<u>Average Without Display</u>	2.39	<u>Average Without Display</u>	2.45

To obtain specific standby power apportionment factors for microwave/conventional ranges, DOE estimated Overall Standby Power = (Microwave Oven Standby Power without Display) + (Conventional Cooking Top Standby Power without Display) + (Conventional Oven Standby Power without Display) + (Display Standby Power). Because the display typically includes features such as a clock and timer, which can provide utility for each functional component of the microwave/conventional range, the display standby power is assumed to be apportioned equally among each of the functional components. The standby apportionment

factor (F_{SB}) for each component would thus be:

$$F_{SB} = [(Standby\ Power\ of\ that\ Component\ without\ Display) + (1/Number\ of\ Components) \times (Display\ Standby\ Power)] / (Overall\ Standby\ Power)$$
, where the number of components would be two. DOE used a similar approach for microwave/conventional cooking tops, where the overall standby power was obtained from the sum of the microwave oven standby power without display, conventional cooking top standby power without display, and display standby power. In that case, the standby power apportionment factor would also be calculated using two as the number of components. Similarly, for microwave/conventional ovens, the overall standby power was obtained from the sum of the conventional oven standby power without display, microwave oven standby power without display, and display standby power, and the standby power apportionment factor would be calculated using two as the number of components. Table 3 summarizes these calculations, and presents the resulting standby power apportionment factors for each of the functional components. DOE proposes to use the microwave oven standby power apportionment factors in its test procedure for these products.

Table 3: Standby Power Apportionment Factors for Microwave/Conventional Ranges and Microwave/Conventional Ovens

Standby Power (W)	Microwave/Conventional Range	Microwave/Conventional Cooking Top	Microwave/Conventional Oven
Cooking Top Portion	1.87	1.87	
Oven Portion	2.39		2.39
Microwave Oven Portion	2.45	2.45	2.45
Display	1.41	1.41	1.41
Total with Display	8.12	5.73	6.25
Standby Apportionment Factor (%)			
Cooking Top Portion	29%	45%	
Oven Portion	35%		50%
Microwave Oven Portion	36%	55%	50%

DOE had insufficient data on cooking tops, ovens, and microwave ovens capable of operating in off mode to conduct a similar analysis for off mode apportionment factors, due to the limited number of products capable of operation in such a mode. DOE estimates, however, that components in microwave/conventional ranges, microwave/conventional cooking tops, and microwave/conventional ovens that would be energized in off mode would be equally applicable to each of the functional components. Thus, DOE estimates that any off mode power consumption should be evenly apportioned among the components, meaning that the apportionment factors would be a function solely of the number of components in the product, i.e., $F_O = (1/\text{Number of Components})$. Thus, F_O for the microwave portion would be 50 percent for microwave/conventional ovens and microwave/conventional cooking tops, and 33 percent for microwave/conventional ranges.

DOE seeks information and comments on these proposed standby mode and off mode apportionments. DOE also proposes that manufacturers could provide information to DOE to determine alternative apportionment values for specific models of microwave/conventional ranges, microwave/conventional cooking tops, and microwave/conventional ovens. In addition, manufacturers of other combined products that incorporate a microwave oven, including a combination microwave/refrigerator-freezer/charging station would be required to provide such information on appropriate apportionment values for determining the standby mode and off mode power of the microwave oven portion.

D. Compliance with Other EPCA Requirements

EPCA requires that test procedures shall be reasonably designed to produce test results which measure energy efficiency, energy use, or estimated annual operating cost of a covered product during a representative average use cycle or period of use. Test procedures must also not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3))

In the March 2011 Interim Final Rule, DOE concluded that the amended test procedure would produce test results that measure the power consumption of covered products during a representative average use cycle as well as annual energy consumption, and that the test procedure would not be unduly burdensome to conduct. 76 FR 12825, 12840 (March 9, 2011).

The amendments to the DOE test procedures proposed in the November 2011 TP SNOPR would be based on an updated version of IEC Standard 62301, IEC Standard 62301 (Second Edition). For the reasons discussed in the November 2011 TP SNOPR, DOE concluded that the

proposed amended test procedures would produce test results that measure the standby mode and off mode power consumption during representative use, and that the test procedures would not be unduly burdensome to conduct.

Whirlpool stated that it considers the test burden acceptable. However, Whirlpool added that this is contingent upon its comments on the following topics: (1) the exclusion of all products with multiple cavities, with one cavity having microwave capability and the other having a conventional oven, as covered products, (2) the proposed use of IEC Standard 62301 (Second Edition), (3) the measurement of total harmonic distortion before and/or after the actual test, and (4) the use of a manufacturer-determined stabilization period at the start of standby power testing for microwave ovens with clocks. (Whirlpool, No. 33 at p. 2)

For the reasons discussed in section III.A, DOE is proposing in today's notice to cover all products with a microwave oven component, including products that combine a microwave oven with other appliance functionality, for the purposes of the microwave oven test procedure. Because the proposed test procedure would require the same measurement methodology for all covered products, with the additional application of an apportionment factor for combined products, DOE concludes that the proposed amended test procedures would produce test results that measure the standby mode and off mode power consumption during representative use, and that the test procedures would not be unduly burdensome to conduct. In a subsequent final rule to follow, DOE will address Whirlpool's comments on the test burden associated with the proposed use of IEC Standard 62301 (Second Edition), the power measurement requirements, and the use of a manufacturer-determined stabilization period at the start of standby power testing for

microwave ovens with clocks.

IV. Procedural Issues and Regulatory Review

A. Review Under Executive Order 12866

The Office of Management and Budget has determined that test procedure rulemakings do not constitute “significant regulatory actions” under section 3(f) of Executive Order 12866, Regulatory Planning and Review, 58 FR 51735 (Oct. 4, 1993). Accordingly, this action was not subject to review under the Executive Order by the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget (OMB).

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 et seq) requires preparation of an initial regulatory flexibility analysis (IFRA) for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, “Proper Consideration of Small Entities in Agency Rulemaking,” 67 FR 53461 (August 16, 2002), DOE published procedures and policies on February 19, 2003, to ensure that the potential impacts of its rules on small entities are properly considered during the rulemaking process. 68 FR 7990. DOE’s procedures and policies may be viewed on the Office of the General Counsel’s website (www.gc.doe.gov). DOE reviewed today’s SNOPR under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003.

In conducting this review, DOE first determined the potential number of affected small

entities. The Small Business Administration (SBA) considers an entity to be a small business if, together with its affiliates, it employs fewer than the threshold number of workers specified in 13 CFR part 121 according to the North American Industry Classification System (NAICS) codes. The SBA's Table of Size Standards is available at: http://www.sba.gov/idc/groups/public/documents/sba_homepage/serv_sstd_tablepdf.pdf. The threshold number for NAICS classification 335221, Household Cooking Appliance Manufacturers, which includes microwave oven manufacturers, is 750 employees. DOE surveyed the AHAM member directory to identify manufacturers of microwave ovens. In addition, as part of the appliance standards rulemaking, DOE asked interested parties and AHAM representatives within the microwave oven industry if they were aware of any small business manufacturers. DOE consulted publicly available data, purchased company reports from sources such as Dun & Bradstreet, and contacted manufacturers, where needed, to determine if they meet the SBA's definition of a small business manufacturing facility and have their manufacturing facilities located within the United States. Based on this analysis, DOE estimates that there is one small business which manufactures a product which combines a microwave oven with other appliance functionality.

The proposed rule would amend DOE's test procedure for microwave ovens by incorporating testing provisions to address standby mode and off mode energy use in these products, including the microwave oven portion of combined products. The test procedure amendments involve measuring power input when the product is in standby mode or off mode, and in the case of combined products, apportioning the measured power to the microwave oven portion. Because manufacturers are not currently required to conduct energy testing for

microwave ovens, there could be additional facilities and equipment costs required by the proposed rule. DOE notes that the small business submitted data to DOE on standby power consumption of its products, indicating that it may already have facilities and equipment that meet the proposed requirements. In addition, an Internet search of equipment that specifically meets the proposed requirements reveals a cost of approximately \$2,000. This cost is small compared to the overall financial investment needed to undertake the business enterprise of testing and developing consumer products which involves facilities, qualified staff, and specialized equipment. Based on its review of industry data,⁵ DOE estimates that the small business has annual revenues of approximately \$22 million.

For these reasons, DOE continues to certify that the proposed rule would not have a significant economic impact on a substantial number of small entities. Accordingly, DOE has not prepared a regulatory flexibility analysis for this rulemaking. DOE seeks comment on the updated certification set forth above, and will transmit the certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the SBA for review under 5 U.S.C. 605(b).

C. Review Under the Paperwork Reduction Act of 1995

Manufacturers of microwave ovens must certify to DOE that their products comply with any applicable energy conservation standards. In certifying compliance, manufacturers must test their products according to the DOE test procedures for microwave ovens, including any amendments adopted for those test procedures. DOE has established regulations for the certification and recordkeeping requirements for all covered consumer products and commercial

⁵ Annual revenues estimate based on financial data obtained from Hoover's Inc., available online at www.hoovers.com.

equipment, including microwave ovens. (76 FR 12422 (March 7, 2011)). The collection-of-information requirement for the certification and recordkeeping is subject to review and approval by OMB under the Paperwork Reduction Act (PRA). This requirement has been approved by OMB under OMB control number 1910-1400. Public reporting burden for the certification is estimated to average 20 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

D. Review Under the National Environmental Policy Act of 1969

In this proposed rule, DOE is adopting test procedure amendments that it expects will be used to develop and implement future energy conservation standards for microwave ovens. DOE has determined that this rule falls into a class of actions that are categorically excluded from review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) and DOE's implementing regulations at 10 CFR part 1021. Specifically, this proposed rule would amend the existing test procedures without affecting the amount, quality or distribution of energy usage, and, therefore, would not result in any environmental impacts. Thus, this rulemaking is covered by Categorical Exclusion A5 under 10 CFR part 1021, subpart D, which applies to any rulemaking that interprets or amends an existing rule without changing the environmental effect

of that rule. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

E. Review Under Executive Order 13132

Executive Order 13132, “Federalism,” 64 FR 43255 (August 4, 1999) imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have Federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have Federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. 65 FR 13735. DOE has examined this proposed rule and has determined that it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the products that are the subject of today’s proposed rule. States can petition DOE for exemption from such preemption to the extent, and based on criteria, set forth in EPCA. (42 U.S.C. 6297(d)) No further action is required by Executive Order 13132.

F. Review Under Executive Order 12988

Regarding the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, “Civil Justice Reform,” 61 FR 4729 (Feb. 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (1) eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; (3) provide a clear legal standard for affected conduct rather than a general standard; and (4) promote simplification and burden reduction. Section 3(b) of Executive Order 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation: (1) clearly specifies the preemptive effect, if any; (2) clearly specifies any effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in sections 3(a) and 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, the proposed rule meets the relevant standards of Executive Order 12988.

G. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. Pub. L. No. 104-4, sec. 201 (codified at 2 U.S.C. 1531). For a proposed regulatory action likely to result in a rule that may cause the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector of \$100 million or more in any one

year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish a written statement that estimates the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a), (b)) The UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and Tribal governments on a proposed “significant intergovernmental mandate,” and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820; also available at www.gc.doe.gov. DOE examined today’s proposed rule according to UMRA and its statement of policy and determined that the rule contains neither an intergovernmental mandate, nor a mandate that may result in the expenditure of \$100 million or more in any year, so these requirements do not apply.

H. Review Under the Treasury and General Government Appropriations Act, 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105-277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. This rule would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

I. Review Under Executive Order 12630

DOE has determined, under Executive Order 12630, “Governmental Actions and Interference with Constitutionally Protected Property Rights” 53 FR 8859 (March 18, 1988), that

this regulation would not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

J. Review Under the Treasury and General Government Appropriations Act, 2001

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (Feb. 22, 2002), and DOE's guidelines were published at 67 FR 62446 (Oct. 7, 2002). DOE has reviewed today's proposed rule under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

K. Review Under Executive Order 13211

Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to OMB, a Statement of Energy Effects for any proposed significant energy action. A "significant energy action" is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that: (1) is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (3) is designated by the Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply,

distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

Today's regulatory action to amend the test procedure for measuring the energy efficiency of microwave ovens is not a significant regulatory action under Executive Order 12866. Moreover, it would not have a significant adverse effect on the supply, distribution, or use of energy, nor has it been designated as a significant energy action by the Administrator of OIRA. Therefore, it is not a significant energy action, and, accordingly, DOE has not prepared a Statement of Energy Effects.

L. Review Under Section 32 of the Federal Energy Administration Act of 1974

Under section 301 of the DOE Organization Act (Pub. L. No. 95-91), DOE must comply with section 32 of the Federal Energy Administration Act of 1974 (Pub. L. No. 93-275), as amended by the Federal Energy Administration Authorization Act of 1977 (FEAA; Pub. L. No. 95-70) (15 U.S.C. 788). Section 32 essentially provides that, where a rule authorizes or requires use of commercial standards, the rulemaking must inform the public of the use and background of such standards. In addition, section 32(c) requires DOE to consult with the Attorney General and the Chairman of the Federal Trade Commission (FTC) concerning the impact of the commercial or industry standards on competition.

The proposed rule incorporates testing methods contained in sections 4 and 5 (paragraphs 4.2, 4.4, 4.5, 5.1 (Note 1), 5.2, and 5.3) of the commercial standard, IEC Standard 62301 (First Edition). DOE has evaluated this standard and is unable to conclude whether it fully complies with the requirements of section 32(b) of the FEAA, i.e., whether it was developed in a manner

that fully provides for public participation, comment, and review. DOE will consult with the Attorney General and the Chairman of the FTC about the impact on competition of using the methods contained in this standard and will address any concerns when it publishes a response to the public comments on this SNOPR.

V. Public Participation

A. Submission of Comments

DOE will accept comments, data, and information regarding this proposed rule before or after the public meeting, but no later than the date provided in the DATES section at the beginning of this proposed rule. Interested parties may submit comments using any of the methods described in the ADDRESSES section at the beginning of this notice.

Submitting comments via regulations.gov. The regulations.gov web page will require you to provide your name and contact information. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want

to be publicly viewable should not be included in your comment, nor in any document attached to your comment.

Do not submit to regulations.gov information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (CBI)). Comments submitted through regulations.gov cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section below.

DOE processes submissions made through regulations.gov before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that regulations.gov provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery, or mail. Comments and documents submitted via email, hand delivery, or mail also will be posted to regulations.gov. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information on a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via mail or hand delivery, please provide all items on a CD, if feasible. It is not necessary to submit printed copies. No facsimiles (faxes) will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English and are free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. According to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery two well-marked copies: one copy of the document marked confidential including all the information believed to be confidential, and one copy of the document marked non-confidential with the information believed to be confidential deleted. Submit these documents via email or on a CD, if feasible. DOE will make its own

determination about the confidential status of the information and treat it according to its determination.

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include: (1) A description of the items; (2) whether and why such items are customarily treated as confidential within the industry; (3) whether the information is generally known by or available from other sources; (4) whether the information has previously been made available to others without obligation concerning its confidentiality; (5) an explanation of the competitive injury to the submitting person which would result from public disclosure; (6) when such information might lose its confidential character due to the passage of time; and (7) why disclosure of the information would be contrary to the public interest.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

B. Issues on which DOE Seeks Comment

Although DOE welcomes comments on any aspect of this proposal, DOE is particularly interested in receiving comments and views of interested parties on (1) its tentative determination that all products which combine a microwave oven with other appliance functionality are covered products for the purposes of the microwave oven test procedure; (2) the proposed approach to apportion the standby power of a combined product among the microwave oven and other functional portions; (3) the proposed apportionment values for

microwave/conventional ovens, microwave conventional cooking tops, and microwave/conventional ranges; and (4) DOE's proposal to allow manufacturers of microwave/conventional ovens, microwave/conventional cooking tops, and microwave/conventional ranges to submit alternate values with supporting data, and to require such an approach for other combined products.

VI. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this proposed rule.

List of Subjects

10 CFR Part 429

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Reporting and recordkeeping requirements.

10 CFR Part 430

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Imports, Incorporation by reference, Intergovernmental relations, Small businesses.

Issued in Washington, DC, on May 9, 2012.

Kathleen B. Hogan
Deputy Assistant Secretary
Energy Efficiency and Renewable Energy

For the reasons stated in the preamble, DOE is proposing to amend parts 429 and 430 of title 10 of the Code of Federal Regulations, as set forth below:

**PART 429 -- CERTIFICATION, COMPLIANCE, AND ENFORCEMENT FOR
CONSUMER PRODUCTS AND COMMERCIAL AND INDUSTRIAL EQUIPMENT**

1. The authority citation for part 429 continues to read as follows:

Authority: 42 U.S.C. 6291–6317.

2. Section 429.23 is amended by revising paragraph (a)(2)(i) introductory text to read as follows:

§ 429.23 Conventional cooking tops, conventional ovens, microwave ovens.

* * * * *

(a) * * *

(2) * * *

(i) Any represented value of estimated annual operating cost, energy consumption, standby mode power consumption, off mode power consumption, or other measure of energy consumption of a basic model for which consumers would favor lower values shall be greater than or equal to the higher of:

* * * * *

PART 430--ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS

3. The authority citation for part 430 continues to read as follows:

Authority: 42 U.S.C. 6291-6309; 28 U.S.C. 2461 note.

4. Section 430.2 is amended by:

- a. Revising the definition of “Microwave/conventional range”; and
- b. Adding the definitions for “Convection microwave oven”,
“Microwave/conventional cooking top”, and “Microwave/conventional oven”
in alphabetical order.

The revisions and additions read as follows:

§ 430.2 Definitions.

* * * * *

Convection microwave oven means a microwave oven that incorporates convection features and any other means of cooking in a single compartment.

* * * * *

Microwave/conventional cooking top means a class of kitchen ranges and ovens that is a household cooking appliance consisting of a microwave oven and a conventional cooking top.

Microwave/conventional oven means a class of kitchen ranges and ovens that is a household cooking appliance consisting of a microwave oven and a conventional oven in separate compartments.

Microwave/conventional range means a class of kitchen ranges and ovens that is a household cooking appliance consisting of a microwave oven and a conventional oven in separate compartments and a conventional cooking top.

* * * * *

5. Section 430.3 is amended by revising paragraph (m)(2) to read as follows:

§ 430.3 Materials incorporated by reference.

* * * * *

(m) * *

(2) IEC Standard 62301 (“IEC 62301”), Household electrical appliances—Measurement of standby power (Edition 2.0, 2011-01), IBR approved for Appendix J2 and Appendix I to Subpart B.

* * * * *

6. Appendix I to Subpart B of Part 430 is amended:

a. By revising the note after the heading;

b. In section 1. Definitions:

1. By revising section 1.6;

2. By redesignating sections 1.7 through 1.14 as sections 1.8 through 1.15;

3. By revising newly designated sections 1.12 and 1.15; and

3. By adding section 1.7;

c. In section 2. Test Conditions, by revising sections 2.1, 2.1.3, 2.2.1.1, 2.2.1.2, 2.5.1, 2.5.2, 2.6, and 2.9.1.3 and adding sections 2.1.4, 2.1.4.1, and 2.1.4.2;

- d. In section 3. Test Methods and Measurements, by revising sections 3.1.1, 3.1.1.1, 3.1.2, 3.1.3, 3.1.3.1, 3.2.3; and 3.3.13, and adding sections 3.1.3.2, 3.2.4, and 3.3.14; and
- e. In section 4. Calculation of Derived Results From Test Measurements, by revising section 4.3 and adding sections 4.3.1, 4.3.2, and 4.3.3.

The revisions and additions read as follows:

Appendix I to Subpart B of Part 430—Uniform Test Method for Measuring the Energy Consumption of Conventional Ranges, Conventional Cooking Tops, Conventional Ovens, and Microwave Ovens

Note: Any representation related to standby mode and off mode energy consumption of these products made after [*date 180 days after date of publication of the test procedure final rule in the **Federal Register***] must be based upon results generated under this test procedure, consistent with the requirements of 42 U.S.C. 6293(c)(2). After July 1, 2010, however, when DOE adopts an energy conservation standard that incorporates standby mode and off mode energy consumption, and upon the compliance date for such standards, compliance with the applicable provisions of this test procedure will also be required. Future revisions may add relevant provisions for measuring active mode in microwave ovens.

1. Definitions

* * * * *

1.6 IEC 62301 First Edition refers to the test standard published by the International Electrotechnical Commission, titled “Household electrical appliances – Measurement of standby

power,” Publication 62301 (first edition June 2005) (incorporated by reference, see §430.3).

1.7 IEC 62301 Second Edition refers to the test standard published by the International Electrotechnical Commission, titled “Household electrical appliances – Measurement of standby power,” Publication 62301 Edition 2.0 2011-01 (incorporated by reference, see §430.3).

* * * * *

1.12 Standard cubic foot (or liter (L)) of gas means that quantity of gas that occupies 1 cubic foot (or alternatively expressed in L) when saturated with water vapor at a temperature of 60 °F (15.6 °C) and a pressure of 30 inches of mercury (101.6 kPa) (density of mercury equals 13.595 grams per cubic centimeter).

* * * * *

1.15 Symbol usage. The following identity relationships are provided to help clarify the symbology used throughout this procedure.

A—Number of Hours in a Year

B—Number of Hours Pilot Light Contributes to Cooking

C—Specific Heat

E—Energy Consumed

Eff—Cooking Efficiency

F—Power Apportionment Factor

H—Heating Value of Gas

K—Conversion for Watt-hours to Kilowatt-hours

K_e—3.412 Btu/Wh, Conversion for Watt-hours to Btu’s

M—Mass

n—Number of Units

O—Annual Useful Cooking Energy Output

P—Power

Q—Gas Flow Rate

R—Energy Factor, Ratio of Useful Cooking Energy Output to Total Energy Input

S—Number of Self-Cleaning Operations per Year

T—Temperature

t—Time

V—Volume of Gas Consumed

W—Weight of Test Block

2. Test Conditions

2.1 Installation. A free-standing kitchen range shall be installed with the back directly against, or as near as possible to, a vertical wall which extends at least 1 foot above and on either side of the appliance. There shall be no side walls. A drop-in, built-in or wall-mounted appliance shall be installed in an enclosure in accordance with the manufacturer's instructions. These appliances are to be completely assembled with all handles, knobs, guards and the like mounted in place. Any electric resistance heaters, gas burners, baking racks, and baffles shall be in place in accordance with the manufacturer's instructions; however, broiler pans are to be removed from the oven's baking compartment. For conventional ovens and conventional cooking tops, and for active mode testing of the conventional oven or conventional cooking top portion of a microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range, disconnect any electrical clock which uses energy continuously, except for those that are an integral part of the timing or temperature controlling circuit. Do not disconnect or modify the circuit to any other electrical devices or features.

* * * * *

2.1.3 Microwave ovens. Install the microwave oven in accordance with the manufacturer's instructions and connect to an electrical supply circuit with voltage as specified in section 2.2.1 of this appendix. The microwave oven shall also be installed in accordance with section 5, paragraph 5.2 of IEC 62301 (Second Edition) (incorporated by reference; see §430.3), disregarding the provisions regarding batteries and the determination, classification, and testing of relevant modes. A watt meter shall be installed in the circuit and shall be as described in section 2.9.1.3 of this appendix.

2.1.4 Microwave/conventional ovens, microwave conventional cooking tops, and microwave/conventional ranges.

2.1.4.1 Active mode. For testing other than for standby mode and off mode power, these products shall be connected to an electrical supply circuit with voltage as specified in section 2.2.1 of this appendix with a watt-hour meter installed in the circuit. The watt-hour meter shall be as described in section 2.9.1.1 of this appendix.

2.1.4.2 Standby mode and off mode. For testing standby mode and off mode power, install the product in accordance with the manufacturer's instructions and connect to an electrical supply circuit with voltage as specified in section 2.2.1 of this appendix. The product shall also be installed in accordance with section 5, paragraph 5.2 of IEC 62301 (Second Edition) (incorporated by reference; see §430.3), disregarding the provisions regarding batteries and the determination, classification, and testing of relevant modes. A watt meter shall be installed in the circuit and shall be as described in section 2.9.1.3 of this appendix.

* * * * *

2.2.1.1 Voltage. Maintain the electrical supply to the conventional range,

conventional cooking top, and conventional oven being tested at 240/120 volts ± 2 percent except that basic models rated only at 208/120 volts shall be tested at that rating ± 2 percent. For microwave oven, microwave/conventional oven, microwave/conventional cooking top, and microwave/conventional range testing, maintain the electrical supply to the unit at 240/120 volts ± 1 percent. Maintain the electrical supply frequency for all products at 60 hertz ± 1 percent.

2.2.1.2 Supply voltage waveform. For the standby mode and off mode testing, maintain the electrical supply voltage waveform as indicated in section 4, paragraph 4.3.2 of IEC 62301 (Second Edition) (incorporated by reference; see §430.3). If the power measuring instrument used for testing is unable to measure and record the total harmonic content during the test measurement period, it is acceptable to measure and record the total harmonic content immediately before and after the test measurement period.

* * * * *

2.5.1 Active mode ambient room air temperature. During the active mode test, maintain an ambient room air temperature, T_R , of $77^\circ \pm 9^\circ \text{F}$ ($25^\circ \pm 5^\circ \text{C}$) for conventional ovens, conventional cooking tops, microwave/conventional ovens, microwave/conventional cooking tops, and microwave/conventional ranges, as measured at least 5 feet (1.5 m) and not more than 8 feet (2.4 m) from the nearest surface of the unit under test and approximately 3 feet (0.9 m) above the floor. The temperature shall be measured with a thermometer or temperature indicating system with an accuracy as specified in section 2.9.3.1 of this appendix.

2.5.2 Standby mode and off mode ambient temperature. For standby mode and off mode testing, maintain room ambient air temperature conditions as specified in section 4, paragraph 4.2 of IEC 62301 (Second Edition) (incorporated by reference; see §430.3).

2.6 Normal nonoperating temperature. All areas of the appliance to be tested shall attain the normal nonoperating temperature, as defined in section 1.8 of this appendix, before any testing begins. The equipment for measuring the applicable normal nonoperating temperature shall be as described in sections 2.9.3.1, 2.9.3.2, 2.9.3.3, and 2.9.3.4 of this appendix, as applicable.

* * * * *

2.9.1.3 Standby mode and off mode watt meter. The watt meter used to measure standby mode and off mode shall meet the requirements specified in section 4, paragraph 4.4 of IEC 62301 (Second Edition) (incorporated by reference; see §430.3). If the power measuring instrument used for testing is unable to measure and record the crest factor, power factor, or maximum current ratio during the test measurement period, it is acceptable to measure the crest factor, power factor, and maximum current ratio immediately before and after the test measurement period.

* * * * *

3. Test Methods and Measurements

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3.1.1 Conventional oven. Perform a test by establishing the testing conditions set forth in section 2, “TEST CONDITIONS,” of this appendix, and adjust any pilot lights of a conventional gas oven in accordance with the manufacturer’s instructions and turn off the gas flow to the conventional cooking top, if so equipped. Before beginning the test, the conventional oven shall be at its normal nonoperating temperature as defined in section 1.8 and described in section 2.6 of this appendix. Set the conventional oven test block W_1 approximately in the center of the usable baking space. If there is a selector switch for selecting the mode of operation of the

oven, set it for normal baking. If an oven permits baking by either forced convection by using a fan, or without forced convection, the oven is to be tested in each of those two modes. The oven shall remain on for at least one complete thermostat “cut-off/cut-on” of the electrical resistance heaters or gas burners after the test block temperature has increased 234 °F (130 °C) above its initial temperature.

3.1.1.1 Self-cleaning operation of a conventional oven. Establish the test conditions set forth in section 2, “TEST CONDITIONS,” of this appendix. Adjust any pilot lights of a conventional gas oven in accordance with the manufacturer’s instructions and turn off the gas flow to the conventional cooking top. The temperature of the conventional oven shall be its normal nonoperating temperature as defined in section 1.8 and described in section 2.6 of this appendix. Then set the conventional oven’s self-cleaning process in accordance with the manufacturer’s instructions. If the self-cleaning process is adjustable, use the average time recommended by the manufacturer for a moderately soiled oven.

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3.1.2 Conventional cooking top. Establish the test conditions set forth in section 2, “TEST CONDITIONS,” of this appendix. Adjust any pilot lights of a conventional gas cooking top in accordance with the manufacturer’s instructions and turn off the gas flow to the conventional oven(s), if so equipped. The temperature of the conventional cooking top shall be its normal nonoperating temperature as defined in section 1.8 and described in section 2.6 of this appendix. Set the test block in the center of the surface unit under test. The small test block, W_2 , shall be used on electric surface units of 7 inches (178 mm) or less in diameter. The large test block, W_3 , shall be used on electric surface units over 7 inches (177.8 mm) in diameter and on all gas surface units. Turn on the surface unit under test and set its energy input rate to the

maximum setting. When the test block reaches 144 °F (80 °C) above its initial test block temperature, immediately reduce the energy input rate to 25±5 percent of the maximum energy input rate. After 15±0.1 minutes at the reduced energy setting, turn off the surface unit under test.

* * * * *

3.1.3 Microwave oven, microwave/conventional oven, microwave oven/conventional cooking top, and microwave/conventional range.

3.1.3.1 Microwave oven test standby mode and off mode power. Establish the testing conditions set forth in section 2, “TEST CONDITIONS,” of this appendix. For microwave ovens that drop from a higher power state to a lower power state as discussed in section 5, paragraph 5.1, Note 1 of IEC 62301 (Second Edition) (incorporated by reference; see § 430.3), allow sufficient time for the microwave oven to reach the lower power state before proceeding with the test measurement. Follow the test procedure as specified in section 5, paragraph 5.3.2 of IEC 62301 (Second Edition). For units in which power varies as a function of displayed time in standby mode, set the clock time to 3:23 and use the average power approach described in section 5, paragraph 5.3.2(a) of IEC 62301 (First Edition), but with a single test period of 10 minutes +0/-2 sec after an additional stabilization period until the clock time reaches 3:33. If a microwave oven is capable of operation in either standby mode or off mode, as defined in sections 1.13 and 1.9 of this appendix, respectively, or both, test the microwave oven in each mode in which it can operate.

3.1.3.2 Microwave/conventional oven, microwave/conventional cooking top, and microwave/conventional range standby mode and off mode power. For standby mode and off mode power testing of the microwave oven portion of the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range, follow the procedure

established in section 3.1.3.1 of this appendix. If the product has separate displays for the microwave oven and conventional oven, conventional cooking top, or conventional range portions, in which power varies as a function of the displayed time in standby mode, follow the procedure in section 3.1.3.1 of this appendix for each clock simultaneously.

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3.2.3 Microwave oven test standby mode and off mode power. Make measurements as specified in section 5, paragraph 5.3 of IEC 62301 (Second Edition) (incorporated by reference; see §430.3). If the microwave oven is capable of operating in standby mode, measure the average standby mode power of the microwave oven, P_{SB} , in watts as specified in section 3.1.3.1 of this appendix. If the microwave oven is capable of operating in off mode, measure the average off mode power of the microwave oven, P_O , as specified in section 3.1.3.1 of this appendix.

3.2.4 Microwave/conventional oven, microwave/conventional cooking top, and microwave/conventional range test standby mode and off mode power. Make measurements as specified in section 5, paragraph 5.3 of IEC 62301 (Second Edition) (incorporated by reference; see §430.3). If the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range is capable of operating in standby mode, measure the average standby mode power of the combined product, P_{SBC} , in watts as specified in section 3.1.3.2 of this appendix. If the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range is capable of operating in off mode, measure the average off mode power of the combined product, P_{OC} , as specified in section 3.1.3.2 of this appendix.

* * * * *

3.3.13 Record the average standby mode power, P_{SB} , for the microwave oven standby mode, as determined in section 3.2.3 of this appendix for a microwave oven capable of operating

in standby mode. Record the average off mode power, P_O , for the microwave oven off mode power test, as determined in section 3.2.3 of this appendix for a microwave oven capable of operating in off mode.

3.3.14 Record the average standby mode power, P_{SBC} , for the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range standby mode, as determined in section 3.2.4 of this appendix for a microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range capable of operating in standby mode. Record the average off mode power, P_{OC} , for the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range off mode power test, as determined in section 3.2.4 of this appendix for a microwave oven capable of operating in off mode.

4. Calculation of Derived Results from Test Measurements

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4.3 Combined components.

4.3.1 Combined conventional cooking products. The annual energy consumption of a conventional range, e.g. a conventional cooking top and conventional oven combined, shall be the sum of the annual energy consumption of each of its components. The annual energy consumption for other combinations of conventional ovens and conventional cooking tops will also be treated as the sum of the annual energy consumption of each of its components. The energy factor of a combined component is the sum of the annual useful cooking energy output of each component divided by the sum of the total annual energy consumption of each component.

4.3.2 Microwave/conventional oven, microwave/conventional cooking top, and microwave/conventional range. Calculate the average standby mode power, P_{SB} , for the

microwave oven portion of the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range capable of operating in standby mode, in watts, defined as:

$$P_{SB} = P_{SBC} \times F_{SBM}$$

Where:

P_{SBC} =the average standby mode power for the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range as determined in section 3.3.14 of this appendix.

F_{SBM} =the power apportionment factor for the microwave oven portion of the average standby mode power for the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range = 0.50 for microwave/conventional ovens, 0.55 for microwave/conventional cooking tops, and 0.36 for microwave/conventional ranges.

Alternatively, manufacturers may submit data to DOE that DOE may use to permit a different value of F_{SBM} for that particular model of microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range.

Calculate the average off mode power, P_O , for the microwave oven portion of the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range capable of operating in off mode, in watts, defined as:

$$P_O = P_{OC} \times F_{OM}$$

Where:

P_{OC} =the average off mode power for the microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range as determined in section 3.3.14 of this appendix.

F_{OM} =the power apportionment factor for the microwave oven portion of the average off mode

power for the microwave/conventional oven, microwave/conventional cooking top, or microwave conventional range = 0.50 for microwave/conventional ovens and microwave/conventional cooking tops, and 0.33 for microwave/conventional ranges.

Alternatively, manufacturers may submit data to DOE that DOE may use to permit a different value of F_{OM} for that particular model of microwave/conventional oven, microwave/conventional cooking top, or microwave/conventional range.

4.3.3 Other combined products. For products that combine a microwave oven with appliance functionality other than cooking or heating food, the average standby power, P_{SB} , and average off mode power, P_O , of the microwave oven portion shall be determined as for microwave/conventional ovens, microwave/conventional cooking tops, and microwave/conventional ranges, except that manufacturers must submit data to DOE that DOE shall use to determine the values of the apportionment factors, F_{SBM} and F_{OM} , as defined in section 4.3.2 of this appendix, for that particular model of combined product.

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